

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-32 (Canceled).

33. A device for handling a sample, the sample being a cryosample surrounded during the handling by an ambient gas, comprising:
- a) climate control equipment adapted to perform an operation selected from the group consisting of:
 - i. cooling the ambient gas,
 - ii. drying the ambient gas, and
 - iii. replacing the ambient gas with a protective gasin order to avoid deterioration of the sample by the ambient gas,
 - b) a protective container for receiving the sample during the handling, the climate control equipment being connected to the protective container in order to perform said operation, and
 - c) a protective gas source that is part of the climate control equipment and is adapted to fill the protective container at least partially with the protective gas, the protective gas preventing a deterioration of the sample during its handling,
- wherein the protective gas source has an at least partially open protective-gas storage container in which liquefied protective gas is present that outgases into the protective container.
34. The device according to Claim 33, wherein a heating element is provided for heating the liquefied protective gas present in the protective-gas storage container and for furthering the outgassing of the protective gas.
35. The device according to Claim 33, wherein the protective-gas storage container has a filter element in order to retain substances selected from the group consisting of:

- a) bacteria,
 - b) viruses, and
 - c) other particles present in the liquefied protective gas during outgassing.
36. The device according to Claim 33, wherein the protective container is mobile and has an opening on its bottom in order to introduce the sample into and to remove it from the protective container.
37. The device according to Claim 36, further comprising a seal for sealing the opening of the protective container after the protective container has been placed on the sample.
38. The device according to Claim 33, wherein the protective container has an at least partially transparent container wall in order to make visual monitoring possible during the handling of the sample.
39. The device according to Claim 33, wherein an outlet opening is arranged on top of the protective container for discharging excess ambient gas.
40. The device according to Claim 39, wherein a discharge tube is connected to the outlet opening on the outside of the protective container, said discharge tube having a downwardly directed mouth located outside of the protective container.
41. The device according Claim 33, wherein the protective container has at least one gas-tight intervention zone adapted to enable treating the sample in the protective container.
42. The device according to Claim 33, further comprising a gas-tight lock adapted to enable introducing the sample into the protective container and removing the sample from the protective container.
43. The device according to Claim 42, wherein the lock comprises an opening in the protective container and a flexible curtain covering the opening.
44. The device according to Claim 42, wherein a lock is arranged on each of opposite sides of the protective container in order to make automated operation possible.
45. The device according to Claim 33, wherein the protective container has a thermally insulating container wall adapted to prevent condensation caused by cold on an outside surface of the device.

46. The device according to Claim 33, wherein the protective container has a heatable container wall adapted to prevent condensation caused by cold on an outside surface of the device.
47. The device according to Claim 33, wherein at least one UV lamp for sterilization is mounted in the protective container.
48. The device according to Claim 33, wherein the protective container is portable and is bell-shaped or hood-shaped.
49. The device according to Claim 33, wherein the protective container is man-accessible.
50. The device according to Claim 49, further comprising a breathing air supply for an operator in the protective container.
51. The device according to Claim 33, wherein the protective gas is substantially sterile.
52. A method for handling a sample, the sample being a cryosubstrate surrounded during the handling by an ambient gas, comprising the following steps:
 - a) introducing the sample into a protective container,
 - b) performing an operation selected from the group consisting of:
 - i. cooling the ambient gas,
 - ii. drying the ambient gas, and
 - iii. replacing the ambient gas with a protective gasin order to avoid a deterioration of the sample by the ambient gas, and
 - c) using a protective gas source in order to fill the protective container at least partially with the protective gas that prevents a deterioration of the sample during its handling,wherein liquefied protective gas outgasses into the protective container from an at least partially open protective-gas storage container of the protective gas source.
53. The method according to Claim 52 wherein the sample is first arranged in a sample container and is not removed from the sample container until in the protective container.
54. The method according to Claim 52, wherein the protective container is filled at least partially with the protective gas prior to removing the sample from the sample container.

55. The method according to Claim 52, wherein liquefied protective gas is heated in order to further the outgassing of the protective gas.
56. The method according to Claim 52, wherein the protective gas is filtered prior to the filling of the protective container in order to retain substances selected from the group consisting of:
 - a) bacteria,
 - b) viruses, and
 - c) other particles present in the liquefied protective gas during outgassing.
57. The method according to Claim 52, wherein the protective container has an opening on its bottom and is placed on the sample container with the sample in the sample container before the sample is removed from the sample container.
58. The method according to Claim 52, wherein a container wall of the protective container is heated in order to prevent condensation on the container wall.
59. The method according to Claim 52, wherein the sample in the protective container is irradiated with UV light for sterilization.
60. The method according to Claim 52, wherein the protective gas is substantially sterile.
61. A device for handling a sample, the sample being a cryosample surrounded during the handling by an ambient gas, said device comprising:
 - a) climate control equipment adapted to perform an operation selected from the group consisting of:
 - i) cooling the ambient gas,
 - ii) drying the ambient gas, and
 - iii) replacing the ambient gas with a protective gasin order to avoid a deterioration of the sample by the ambient gas,
 - b) a protective container for receiving the sample during the handling, wherein the protective container is mobile and the climate control equipment is connected to the protective container in order to perform said operation,

- c) an opening on a bottom of the protective container in order to introduce the sample into and remove the sample from the protective container, and
 - d) a gas-tight lock adapted to introduce the sample into the protective container and to remove the sample from the protective container.
- 62. The device according to Claim 61, wherein the climate control equipment has a protective gas source in order to fill the protective container at least partially with the protective gas, the protective gas preventing a deterioration of the sample during handling of the sample.
- 63. The device according to Claim 62, wherein the protective gas source has an at least partially open protective-gas storage container in which liquefied protective gas is present that outgases into the protective container.
- 64. The device according to Claim 63, wherein a heating element is provided for heating the liquefied protective gas present in the protective-gas storage container and for furthering the outgassing of the protective gas.
- 65. The device according to Claim 63, wherein the protective-gas storage container has a filter element in order to retain substances selected from the group consisting of:
 - a) bacteria,
 - b) viruses, and
 - c) other particles present in the liquefied protective gas during outgassing.
- 66. The device according to Claim 61, further comprising a seal for sealing the opening of the protective container after the protective container has been placed on the sample.
- 67. The device according to Claim 61, wherein the protective container has an at least partially transparent container wall adapted to make visual monitoring possible during the handling of the sample.
- 68. The device according to Claim 61, wherein an outlet opening is arranged on top of the protective container for discharging excess ambient gas.
- 69. The device according to Claim 68, wherein a discharge tube is connected to the outlet opening outside of the protective container, said tube having a downwardly directed

mouth located outside of the protective container.

70. The device according to Claim 61, wherein the protective container has at least one gas-tight intervention zone adapted to enable treating the sample in the protective container.
71. The device according to Claim 61, wherein the lock comprises an opening in the protective container and a flexible curtain covering the opening.
72. The device according to Claim 61, wherein the protective container has a thermally insulating container wall adapted to prevent condensation caused by cold on an outside surface of the device.
73. The device according to Claim 61, wherein the protective container has a heatable container wall in order to prevent condensation caused by cold on an outside surface of the device.
74. The device according to Claim 61, wherein at least one UV lamp for sterilization is mounted in the protective container.
75. The device according to Claim 61, wherein the protective container is portable and is bell-shaped or hood-shaped.
76. The device according to Claim 61, wherein the protective container is man-accessible.
77. The device according to Claim 76, further comprising a breathing air supply for an operator in the protective container.
78. The device according Claim 61, wherein the protective gas is substantially sterile.